

REMARKS

Claims 9-16 are currently pending in the subject application. Claims 9, 10, 13 and 14 have been amended. Claims 9, 10 and 13-15 are independent. Claims 9-16 are presented to the Examiner for further prosecution on the merits.

A. Introduction

In the outstanding Office action the Examiner rejected claims 9, 13 and 14 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement, objected to claims 10-12, rejected claim 13 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,764,052 to Renger (“the Renger reference”), rejected claims 9 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Applicants’ Admitted Prior Art (“the AAPA”) in view of the Renger reference, indicated that claims 10-12 contain allowable subject matter, and that claims 15-16 are allowed.

B. Asserted Indefiniteness Rejection of Claims 9, 13 and 14

In the outstanding Office action the Examiner rejected claims 9, 13 and 14 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Claims 9, 13 and 14 have been amended to clarify that the cycle being referred to is a cycle of the sensing apparatus, which extends from the start of the sensing at  $t_1$  until the sensed, filtered signal is output by the signal transmitter 190 at time  $t_6$ . This definition is supported by the specification by at least the following.

FIG. 5 of the original specification illustrates “one cycle of the sensing apparatus”. See paragraph [0032] of the original specification. Therefore, it is respectfully submitted that the sensing cycle is from the start of the sensing at  $t_1$  until the sensed, filtered signal is output by the signal transmitter 190 at time  $t_6$ . When the A/D conversion is completed at  $T_3$ , the

control signal B, e.g., signal S<sub>2</sub>, changes to a low level at t<sub>4</sub>. This converted signal is then filtered as the filtered signal S<sub>3</sub>, which is output to the transmitter at t<sub>5</sub>. Absent the present invention, the control signal B would remain at a high level throughout the cycle, and current continues to be applied to the drive coil during the sensing cycle, as can be seen from the control signal B in FIG. 4 of the specification. This is further evidenced by the discussion in paragraph [0037], in which a length of one cycle of the sensing apparatus is 5 ms, but a length of the driving time for the drive coil is 20  $\mu$ s.

Therefore, it is respectfully submitted that the cycle of the sensing apparatus is from time t<sub>1</sub> to time t<sub>6</sub>, and the pulse controller stops outputting the control signal before the end of the sensing cycle, as recited in claims 9, 13 and 14. Therefore, it is respectfully requested that this rejection be withdrawn.

C. Asserted Objections

In the outstanding Office action, the Examiner objected to claims 10-12 due to a noted informality. Claim 10 has been amended as suggested by the Examiner. Therefore, it is respectfully requested that this objection be withdrawn.

D. Asserted Anticipation Rejection

In the outstanding Office Action, the Examiner rejected claim 13 under 35 U.S.C. § 102(b) as being anticipated by the Renger reference. In view of the above explanation regarding the duration of the cycle of the sensing apparatus, it is respectfully submitted that the Renger reference fails to disclose or suggest the present invention as recited in claim 13. In particular, there is no control signal *per se* being output to be stopped, especially not before an end of a cycle of the sensing apparatus, as now recited in claim 13. Any control signal in the Renger reference appears to be a time lapse trigger rather than an event trigger,

as now more clearly recited in claim 13. It is respectfully submitted that, in claim 13, the event trigger is clearly the A/D converter outputting the digital signal to the pulse controller.

Therefore, the Renger reference fails to disclose or suggest the present invention as recited in claim 13. Therefore, it is respectfully requested that this rejection be withdrawn.

E. Asserted Obviousness Rejection

In the outstanding Office Action, the Examiner rejected claims 9 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the the AAPA in view of the Renger reference. In view of the above explanation regarding the duration of the cycle of the sensing apparatus, it is respectfully submitted that the Renger reference fails to disclose or suggest the present invention as recited in claim 2. In particular, there is no control signal *per se* being output to be stopped, especially not before an end of a cycle of the sensing apparatus, as now recited in claims 9 and 14. Any control signal in the Renger reference appears to be a time lapse trigger rather than an event trigger, as now more clearly recited in claims 9 and 14. It is respectfully submitted that, in claims 9 and 14, the event trigger is clearly the A/D converter outputting the digital signal to the pulse controller

Therefore, it is respectfully submitted that neither the AAPA nor the Renger reference, either alone or in combination, disclose or suggest the present invention as recited in claims 9 and 14. Therefore, it is respectfully requested that this rejection be withdrawn.

F. Allowable Subject Matter

The indication that claims 10-12 contain allowable subject matter and that claims 15-16 are allowed is gratefully acknowledged. However, it is respectfully submitted that all of the claims are in condition for allowance, and an early indication of the same is earnestly solicited.

G. Conclusion

Since the cited prior art references, taken alone or in combination, neither anticipate nor render obvious the subject invention as presently claimed, applicants respectfully submit that claims 9-16 are now in condition for allowance, and a notice to that effect is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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**PETITION and**  
**DEPOSIT ACCOUNT CHARGE AUTHORIZATION**

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.